

**Amendments to the Drawings:**

The attached replacement drawing sheet makes changes to Figs. 5 and 6 and replaces the original sheet with Figs. 5 and 6.

Attachment: Replacement Sheet

**REMARKS**

Claims 1-8 are pending in this application.

By this Amendment, claim 5 is amended to correct a typographical error, claim 9 is canceled, and Figs. 5 and 6 are amended to include "Prior Art" in the legend of each figure. Thus, no new matter is added by this amendment.

Applicant appreciates the courtesies shown to Applicant's representative by Examiner Parekh during the May 19, 2005 telephone interview. Applicant's separate record of the substance of the interview is incorporated into the following remarks.

**I. Restriction Requirement**

The Office Action makes final the Restriction Requirement. To expedite allowance of the application, Applicant herein cancels non-elected claim 9. Applicant reserves the right to pursue the subject matter of claim 9 in a divisional application.

**II. Drawings**

The Office Action objects to Figs. 5 and 6. Applicant herein amends each of Figs. 5 and 6 to include the label "Prior Art". Withdrawal of the drawing objection is requested.

**III. Rejection Under 35 U.S.C. §103(a)**

Claims 1-8 were rejected under 35 U.S.C. §103(a) over "admitted prior art" (Applicant's Fig. 5) in view of U.S. Patent Publication No. 2001/0015484 (Matsuura). This rejection is respectfully traversed.

The Office Action asserts that Applicant's admitted prior art discloses all of the features of the claims except for the adhesive layer not being adhesive at normal ambient temperature but exhibiting adhesiveness when heated. The Office Action cites Matsuura as curing this deficiency and alleges that it would have been obvious to incorporate the adhesive layer not being adhesive at normal ambient temperature but exhibiting adhesiveness when heated, as taught by Matsuura, so that the adhesion/bonding, crack resistance and reliability

can be improved and moisture absorption can be reduced in Applicant's admitted prior art device.

To determine whether a claim would have been obvious at the time of the invention, the Patent Office must first determine the scope and content of the prior art. See *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). Although §103 does not, by its terms, define the art to which the subject matter sought to be patented pertains, this determination is frequently couched in terms of whether the art is analogous or not, i.e., whether the art is too remote to be treated as prior art. See *In re Clay*, 966 F.2d 656, 658, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992) citing *In re Sovish*, 769 F.2d 738, 741, 226 USPQ 771, 773 (Fed. Cir. 1985).

In making this determination, two criteria are considered. First, it must be determined if the prior art is from the same field of endeavor, regardless of the problem addressed. Second, even if the prior art is not in the same field of endeavor, it must be determined whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. See *In re Clay, supra*, 966 F.2d at 658-659, 23 USPQ2d at 1060.

With respect to the first criterion, Matsuura is directed to a heat-resistant adhesive for use in an adhesive member for the fabrication of a semiconductor package by bonding a semiconductor chip to a lead frame. The present claims, as well as Applicant's admitted prior art, however, are directed to an insulating sheet for use with hard disk devices. Thus, Matsuura is not from the same field of endeavor.

With respect to the second criterion, Matsuura teaches providing an adhesive suitable for use in a semiconductor package, because such an adhesive is capable of preventing possible cracks from occurring during reflow of solder under a condition in which the package has absorbed moisture. That is, Matsuura is directed to an adhesive that has a water absorption rate of no more than 3 wt.%. See paragraphs [0012] and [0016] of Matsuura. On

the other hand, the presently claimed invention is directed to an insulating sheet having an adhesive layer that is not adhesive at normal ambient temperature but exhibits adhesiveness when heated. The presently claimed adhesive layer allows for at least two advantages over the admitted prior art. First, the admitted prior art requires silicone coated release liners on either side of an adhesive prior to application of the adhesive (see paragraphs [0006]-[0010]), whereas the presently claimed insulating sheet does not require the use of release liners. Accordingly, an advantage of the presently claimed invention is that there is no need to dispose of a release liner, and manufacturing is more simple. Second, in the admitted prior art, the silicone component of the release liner may be released onto the adhesive due to generation of heat during driving of the disk drive. Silicone residue on the adhesive is likely to have a detrimental effect on the electronic circuit of the printed wiring board and the electronic components inside the case. In other words, the presently claimed invention is directed to an adhesive that does not require the use of silicone release layers. Matsuura, on the other hand, is directed to preventing cracks during reflow of solder when a package has absorbed moisture. Thus, Matsuura is not reasonably pertinent to the problem addressed by the claims.

Accordingly, the rejection of the claims over admitted prior art in view of Matsuura is improper because (1) Matsuura is not in the same field of endeavor; and (2) Matsuura is not reasonably pertinent to the particular problem with which the presently claimed invention solves. Matsuura is non-analogous art.

Nonetheless, even if Applicant's admitted prior art and Matsuura could somehow be considered to be analogous, the presently claimed invention still would not be achieved because there is no motivation to combine the admitted prior art and Matsuura. Specifically, there is no motivation to modify Applicant's admitted prior art with the adhesive of Matsuura because the admitted prior art does not have a need to prevent possible cracks from occurring

during reflow of solder when the hard disk drive has absorbed moisture. In particular, nowhere does the admitted prior art even discuss cracking, reflow of solder, or problems associated with a moisture absorption problem. Accordingly, one skilled in the art would not be motivated to use the adhesive of Matsuura with the hard disk drive or insulating sheet of the presently claimed application in order to improve crack resistance and moisture absorption.

Still further, the Office Action alleges that the claimed feature that the adhesive layer "is not adhesive at normal ambient temperature but exhibits adhesiveness when heated" does not distinguish over the admitted prior art and Matsuura because "only the final product/structure is relevant, not forming the adhesiveness using the 'heating', 'compressing', 'pressurizing and heating' or 'softening, curing or melting'." Applicant submits that this assertion made by the Patent Office is legally and technically incorrect because this claim recitation is not a product by process limitation. Rather, this recitation is a functional limitation that defines a physical property of the adhesive layer. That is, the adhesive layer is defined as not being adhesive at normal ambient temperature but exhibiting adhesiveness when heated. This is a structural feature of the claimed adhesive layer, and not a process step, or the result of a process step. See, for example, MPEP §2173.05(g) and the examples given therein.

For the foregoing reasons, Applicant submits that there is no motivation to combine Matsuura with Applicant's admitted prior art in order to achieve the presently claimed invention. Withdrawal of the rejection is thus respectfully requested.

#### **IV. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the pending claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff  
Registration No. 27,075

Linda M. Saltiel  
Registration No. 51,122

JAO:LMS/jam

Attachment:  
Replacement Drawing Sheet

Date: May 20, 2005

**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

<p><b>DEPOSIT ACCOUNT USE AUTHORIZATION</b> Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
---